Disposal Well Issues – Philip Dellinger, February 5, 2013

Background – Oil and gas related injection wells are one of the few areas of production operations where EPA has regulatory authority. The Underground Injection Control (UIC) program under the Safe Drinking Water Act (SDWA) provides authority to regulate oil and gas related injection wells (Class 2 wells), including both enhanced recovery and disposal wells. All Region 6 states have been delegated authority for this program. None of the Tribes have sought delegation. R6 has far more Class 2 wells than any other Region. About one third of these wells are disposal wells, which are a vital part of oil and gas production operations.

> National Inventory of Class 2 wells = 172,609 (States) + 3,976 (Tribes) = 176,585 total Region 6 Class 2 wells = 73,454 (States) + 2,447 (Tribes) = 75,901 or 43% of national total R6 State breakdown - AR 1,100; LA 3,687; NM 4,556; OK 11,134; TX 52,977

The Energy Policy Act of 2005 amended the SDWA to exempt hydraulic fracturing from the UIC program, except when diesel fuel is a component of the fracture fluid. However, hydraulic fracturing operations in shale gas areas have resulted in increased demand for disposal wells, which are the preferred means, both environmentally and economically, to dispose of spent hydrofracturing liquids.

Seismicity – Although generally rare and minor, earthquakes from oil and gas operations have been documented for over 60 years. Over the last several years earthquakes have been recorded in several shale gas plays, and have garnered media and public attention. Most of these were too small to be felt (magnitude less than 3); however, a few have reportedly caused damage to structures. Disposal wells have been the suspected cause of some these events in the Barnett, Fayetteville, Marcellus and Haynesville plays. As a result of some of these cases, last year EPA HQ directed the UIC National Workgroup to develop a report on seismicity related to disposal wells. Region 6 played a prominent role in that effort. The draft report is currently under review by an expert panel.

Although people commonly attribute earthquakes in shale gas areas directly to hydraulic fracturing, this is not the case. Even though seismicity caused by disposal wells is relatively rare, disposal wells are much more likely than hydraulic fracturing to induce earthquakes for a number of reasons related to pressure buildup in deep disposal zones from long term disposal. It is conceivable for hydraulic fracturing to induce significant earthquakes, but far less likely than disposal wells.

Diesel Hydraulic Fracturing – As a result of the Energy Policy Act mentioned above, the Agency initiated a process to regulate hydraulic fracturing using diesel. This type of fluid is used on rare occasions for frac operations in certain formations. EPA's strategy was to develop a guidance document outlining how these operations should be permitted as Class II wells under existing programs. Last year numerous public comments were received on the draft guidance. HQ is still evaluating these comments.

Other Public Concerns - Ground water safety, trucking (safety and road damage), surface owner rights, and land value concerns are also issues bought up in public complaints.